PAN-PACIFIC ENTOMOLOGIST
71(4): 204–208, (1995)

A NEW SPECIES OF *POECILANTHRAX* FROM CALIFORNIA (DIPTERA: BOMBYLIIDAE)

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Abstract.—A new species of the bombyliid genus *Poecilanthrax* Osten Sacken is described from Santa Barbara, California, *P. brachypus* NEW SPECIES, bringing the total number of species in the genus to 39. This species is best distinguished from its closest relative, *P. alpha* Osten Sacken, by the front tarsi.

Key Words.—Insecta, Diptera, Bombyliidae, *Poecilanthrax brachypus* NEW SPECIES, tarsus, California

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A new species of the bombyliid genus *Poecilanthrax* Osten Sacken, 1886 has recently been discovered in the mountains north of Santa Barbara, California. Since the genus was last revised (Painter and Hall 1960), one species, *mexicanus* Painter, 1969, and one subspecies, *moffiti pallidifrons* Evenhuis, 1977 have been described. This brings the total number of species and subspecies in the genus to 39.

To ease comparison, terminology is the same as in Painter and Hall (1960), except genitalia, which follows Hull (1973).

POECILANTHRAX BRACHYPUS CALDERWOOD NEW SPECIES

Types.—Holotype, male; data: CALIFORNIA. *SANTA BARBARA Co.:* Upper Oso Campground, 12 Sep 1993, J. A. Calderwood; deposited: California Academy of the Sciences, San Francisco, CAS Type no. 17182. Paratypes: same data as holotype, 10 males, 1 female; deposited: Santa Barbara Museum of Natural History and in the author's collection, both Santa Barbara; same locality as holotype, 13 Sep 1992, 3 males, J. A. Calderwood; deposited: JAC collection; same locality as holotype, 6 Sep 1992, 2 males, Rick Rogers; Sage Hill Campground, Aliso Loop Trail, 2 Sep 1992, 2 males, J. A. Calderwood; deposited: JAC collection.

Description.—*Male:* body length 11–15 mm, wing length 12–17 mm (15.2 ± 1.05 mm). Front and face pale yellow, vertex and occiput black. Eyes separated by 2× width of ocellar tubercle. Hair of face white, at apex of oral margin yellow, a few black hairs may be present; front with hair yellow on lower one-half, black above, a small patch of downward-appressed tomentum above antennae. Proboscis black, palps orange with white hair. Basal antennal segment produced medially at apex, orange with black hair dorsally, yellow hair ventrally; segment II orange; segment III black, as long as segments I and II combined. Occiput with pale yellow, tightly appressed tomentum, more dense along eye margin; fringe of short, erect hair along margin of excavation white; vertex bare but for a median ridge of black hair; ocellar triangle with black and yellow hair. Propleuron, upper one-half of mesopleuron, posterior metasternum, scutellum (excluding base) and legs (except base of procoxae) orange in ground color, rest of thorax black. Disk of mesonotum with short black hairs, posterior one-third and margins of mesonotum yellow pilose; tomentum yellow, covering most of mesonotum; bristles yellow. Pleural pile pale yellow to white; legs with bristles black, scales yellow, coxae entirely white pilose. Front tarsi stout, four terminal segments especially short, together shorter than basal segment as measured along venter (Fig. 1A); basal segment thicker at base than length of segment III, bearing dense coat of stiff, proclinate bristles on basal one-half, thicker below. Basicosta with yellow scales

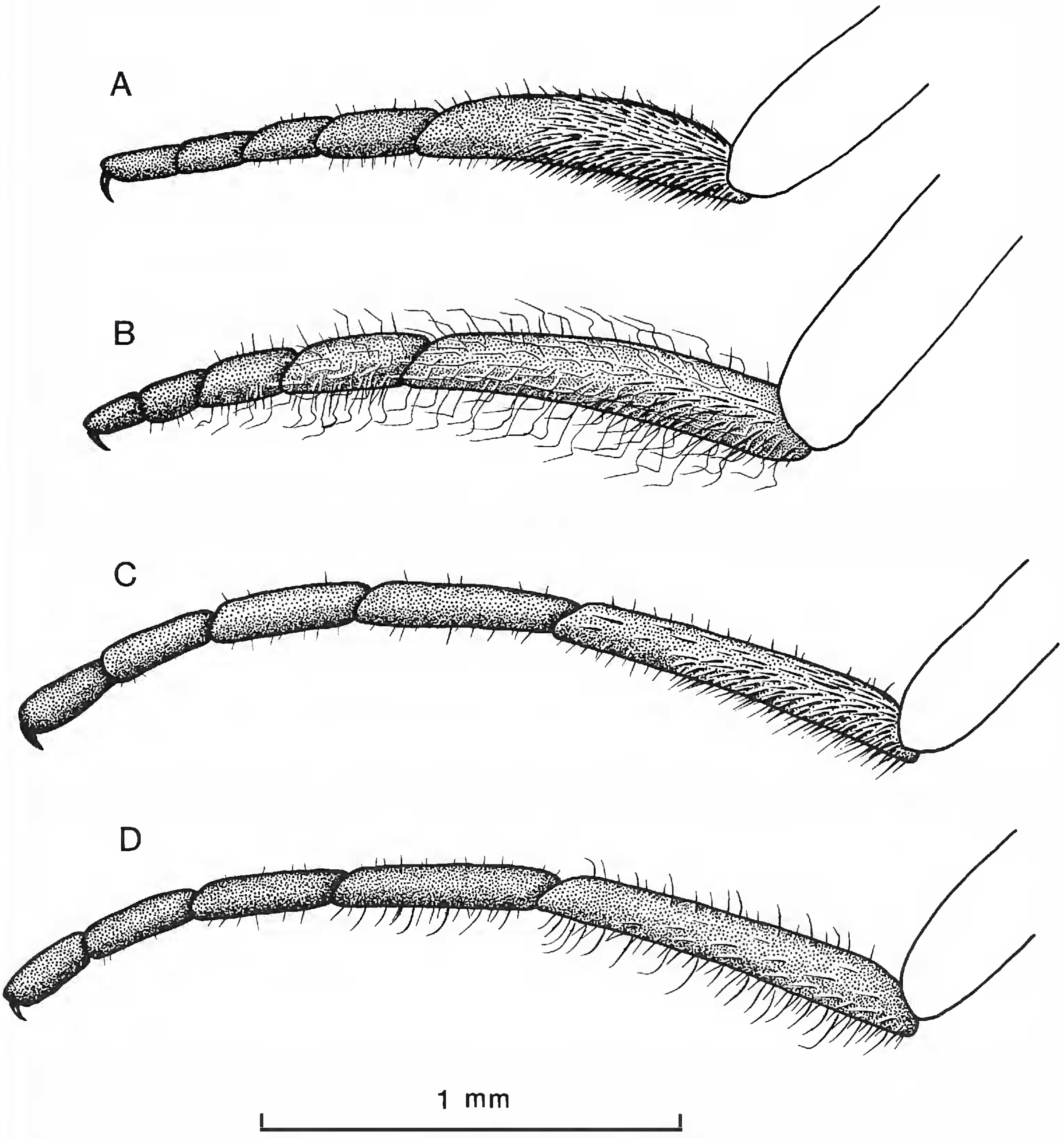

Figure 1. Front tarsi of *Poecilanthrax brachypus* and *P. alpha* (lateral views). A. *P. brachypus* male. B. *P. brachypus* female. C. *P. alpha* male. D. *P. alpha* female.

and black hair; wing (Fig. 2) narrow, infuscated over most of its surface, including along all veins; color not sharply defined, infuscations dark gray with tan at base and along major veins; spots darker at r-m and at bases of r4, rs, and all posterior cells; apical one-half of discal cell, first to fourth posterior cells, anal cell, and cells R2 + 3 and R4 with central sub hyaline areas; r4 and r5 connected by a crossvein, creating a third submarginal cell; third posterior cell with a spur from discal cell. Abdomen black with orange spots on lateral margins of segments II to VI, those on segments II and III largest, covering one-half to two-thirds of tergites from dorsal view; pleuron and venter of abdomen pale orange in ground color with faint, black clouds. Tufts of black pile on posterior lateral corners of segments II to VII, remainder of abdominal margin with pale, yellow pile; a band of black hairs along posterior margins of segments II to VII, broader on segment II; posterior band of black tomentum extending one-half way to lateral margin on segment II, usually reduced to a spot on segments III to VI, often absent beyond segment II, and on all segments giving way to orange tomentum along posterior margin; rest of abdomen clothed in pale yellow tomentum and sparse, yellow pile. Genitalia as illustrated (Fig. 3C); lateral ejaculatory apodeme fanned apically (Fig. 3B).

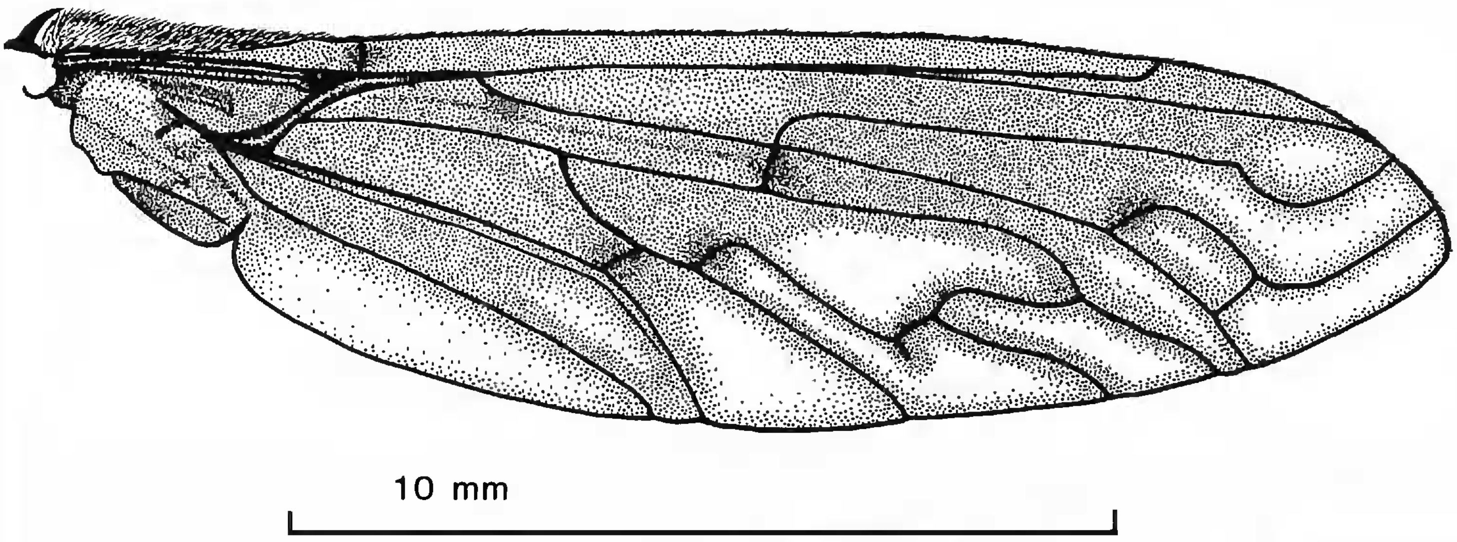

Figure 2. Wing of *Poecilanthrax brachypus.*

Female: like male except: dorsal two-fifths of front red-brown in ground color; eyes separated by 3 × width of ocellar tubercle. Basal 2 segments of front tarsi with dense coat of long, thin, kinky hairs on entire surface (Fig. 1B), partially replacing stout bristles found in male.

Immature stages.—Unknown.

Diagnosis.—Three submarginal cells, red propleura and procoxae, and stout front tarsi separate this fly from its congeners. The stoutness of the front tarsi is measured thus: the basal segment is thicker at its base than the length of segment IV, and is longer than the remaining segments combined (Fig. 1A–B). Measurements should be made along the venter of the tarsus. In Painter and Hall (1960), this fly would key to couplet 12 where *alpha* (Osten Sacken), 1877 and *zionensis* Johnson & Johnson, 1957 fall out. It differs from both *alpha* and *zionensis* in the form of the front tarsus which is very long and slender in those species (Fig. 1C–D). In addition, *brachypus* can be distinguished from *alpha* by the black procoxae in *alpha* and by the shape of the lateral ejaculatory apodeme which, in *alpha* (Fig. 3A), is a rough parallelogram, but is markedly fan-shaped in *brachypus* (Fig. 3B). From *zionensis,* it differs further by the presence of black bristles before the wing and the almost entirely black pilose abdominal fringe in that species.

Variation.—The known population of *brachypus* shows considerable variation in wing venation. Fully seven of the 18 specimens studied bear a major variation resulting in more or fewer cells than normal.

Distribution.—Known only from Santa Barbara Co., California.

Ecology and Behavior.—The flies were collected in a canyon where hard and soft chaparral and oak woodland converge at an elevation of 300 m. Males were especially common cruising among resprouting shrubs in an area cleared by fire in June, 1992. No flower visitations were observed though the much more abundant *Poecilanthrax pilosus* were visiting the flowers of *Haplopappus* sp. nearby. The larvae are unknown.

Discussion.—The closest relative of *brachypus* is almost certainly *alpha,* with the presence of three submarginal cells the most conspicuous synapomorphy. Other synapomorphies are the narrow wing and the pattern of wing color which is very close in the two species and is closely allied with *californicus* (Cole), 1917 and its relatives. The relative position of *zionensis* is obscure.

Poecilanthrax brachypus is known only from the type locality. Further collecting

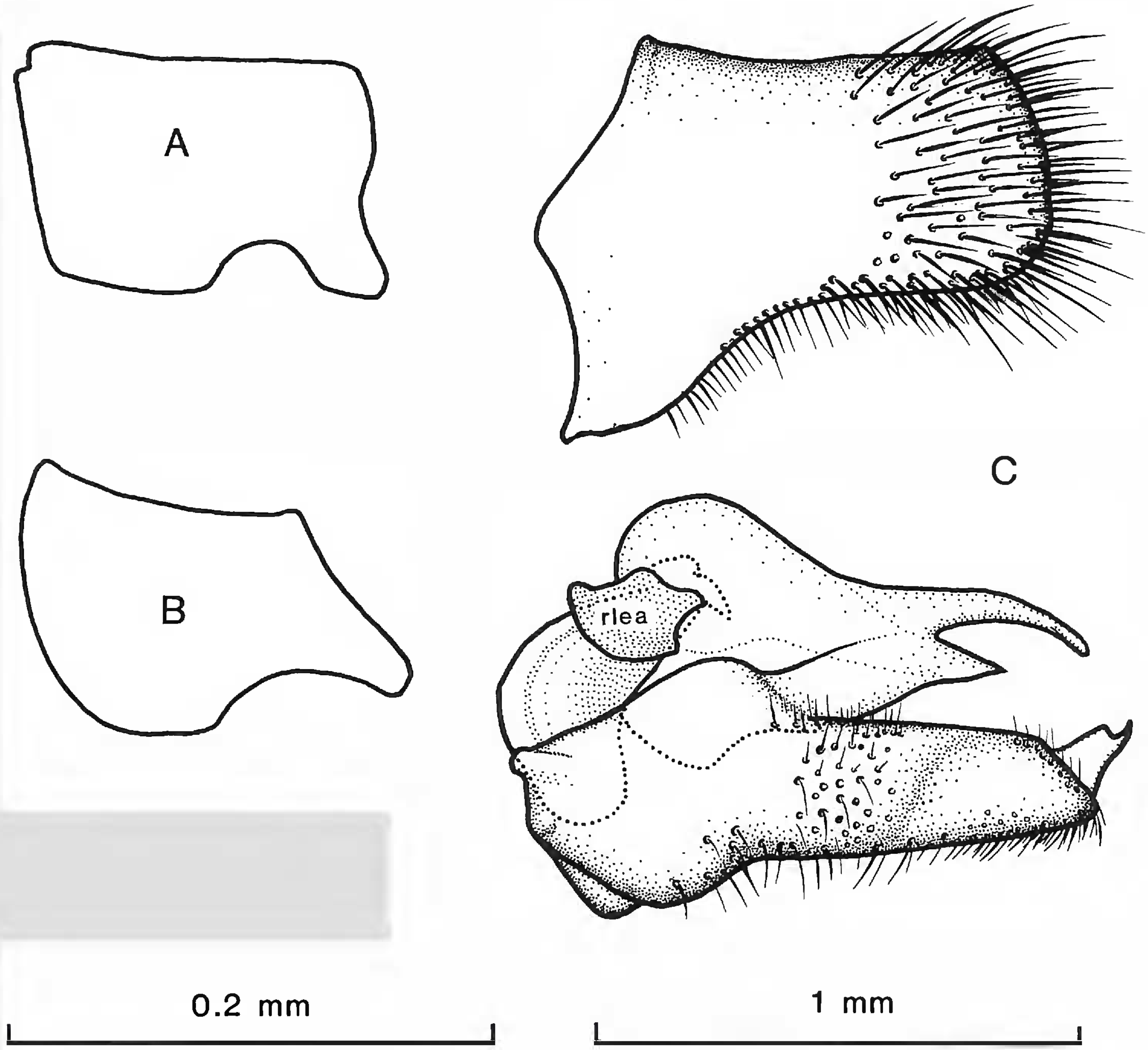

Figure 3. Genitalia of *Poecilanthrax brachypus* and *P. alpha.* A. Right lateral ejaculatory apodeme of *P. alpha* (dorsal view). B. Right lateral ejaculatory apodeme of *P. brachypus* (dorsal view). C. Male genitalia of *P. brachypus* (lateral view). Abbreviation: rlea- right lateral ejaculatory apodeme.

may extend the range north into San Luis Obispo County, but it is unlikely to have been missed in the heavily collected San Gabriel and San Bernardino Mountain Ranges to the southeast. Whereas *alpha* is known only from the mountainous regions of the West at altitudes of 700–3300 m (Painter & Hall 1960), *brachypus* is found at a much lower 300 m. Since much of lowland California has been greatly altered by development in one way or another, especially in the Californian Zone, it is possible that *brachypus* once enjoyed a much greater range.

Etymology.—The name derives from two Greek roots meaning "short" and "foot," referring to the stout front tarsi.

Material Examined.—See types.

Acknowledgment

I wish to thank Saul Frommer, Riverside, California for the loan of specimens of *P. alpha,* Matt Hahn and Dennis Power for allowing me to spend time on this study, and especially Lauri Marx for her patient tutelage in illustration. Finally, I wish to thank my wife, Margaret Pryde, for allowing me to follow flies up distant canyons.

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